

PEER REVIEW: SCS/ FSC Certification Evaluation Report of the Commonwealth of Massachusetts public lands, draft report dated July 5, 2009.

Peer Reviewer: Robert R. Bryan, MS

Date of Review: July 9, 2009

Qualifications of the Reviewer:

M.S. Forestry, University of Vermont (1984); B.S. Botany and Environmental Studies, University of Vermont (1976). Currently president of Forest Synthesis LLC, with a focus on management systems that integrate conservation of ecological integrity with other forest management objectives. Previously employed as Forest and Wetlands Habitat Ecologist/Forester, Maine Audubon (1995 - 2008). Licensed Maine Forester #907, Member SAF and Forest Guild. *Certification Experience:* FSC auditor since 2003. Lead auditor (SmartWood), including over 30 FSC Forest Management certification audits and assessments in the Northeast, Lake States, and Appalachia, including family forests, investment and industrial forests, managed conservation forests, and public lands. Member of FSC Northeast Standards Committee 1997-2003 and FSC-US national standards advisory committee (2007-2009), peer review of SFI industrial forest certification in Northern Maine, member of state-level forest certification policy committees.

1. Clarity of the report in describing the evaluation that was conducted, the criteria that were employed, and the data that were collected.

The assessment report was generally very clear in describing the evaluation methodology. A few areas of potential improvement were noted in Section A, as follows:

- 1.3 An organization chart of departments, bureaus, and divisions references in the report would be useful. Are they all under DCR? Who is the “boss?”

SCS Response: As stated in section 1.3 all agencies are under Executive Office of Env Affairs. BoF and DWSP are under DCR.

- 1.4- Clarify if the DFW lands with publicly-reviewed FMZ plans referenced are part of the certified land base or not.

SCS Response: Correction made

- 1.4.1. The FRMP “Objectives” are really goals. (This may be an FRMP issue, not a report-writing issue).

SCS Response: Correction made

- 1.4.6. Does the AAC, which is expressed in MBF, also include non-sawtimber volume (cordwood, chips, etc.)? If yes, clarify, if no, then non-sawlog volume should be included.

SCS Response: Yes, this includes the total Annual Allowable Cut. This clarification has been made in the report.

2. Adequacy of the report in clearly conveying the basis upon which conformance decisions were reached.

For the majority of the report the conclusions were supported by thorough analysis and presentation of findings. However, some of the responses to stakeholder comments could be clearer, as indicated in the following table. Some issues of clarity are also raised in Section 3 of this peer review.

Assessment Report Section A.3.3.5.1 Summary of Stakeholder Concerns and Perspectives and Responses from the Team Where Applicable.

Stakeholder Comment	Peer Reviewer Comment on Team Response
General	<p>“Duly noted” is frequently used as a team response in the tables. When specific concerns are raised and the response is “Duly noted” it is not clear how the team addressed this concern, if at all, and/or if these concerns are being addressed by the Commonwealth. Presumably if a concern is not followed by a “Duly noted” and a CAR or REC reference then the team did not find a non-conformance with that issue. If that is the case, then the response should briefly explain why there was conformance.</p> <p><i>SCS Response: The term “duly noted” is used to acknowledge general stakeholder comments that do not directly relate to a specific indicator of the standard. The point of the reviewer has been considered and some elaboration of and/or replacements were made.</i></p>
Social:	
60-acre regeneration cut at Georgetown-Rowley SF.	<p>Team response appears to only partially address the concern. Structural retention may not address the aesthetics question.</p> <p><i>SCS Response: A recommendation has been added to address aesthetics (REC 2009.8).</i></p>
Environmental:	
Logging at Boxford	As written, team response does not seem to address the core

SF.	issue raised by the concern. <i>SCS Response: Clarified</i>
Even-aged management not appropriate.	Structural retention may or may not address this issue. More explanation needed due to the controversy here. <i>SCS Response: Expanded upon the response.</i>
Clearcutting has led to blowdowns.	Team response does not appear to address the concern. Is there a greater incidence of blowdowns near clearcuts than in areas subject to some form of partial harvesting? If yes, how does this relate to the FSC-NE Standard? <i>SCS Response: The team observed the loss of residual trees in treatment areas. The region was also severely impacted by a recent ice storm event. As salvage operations are not occurring and these observations were not found to be widespread they did not have significant impact on the team's findings. Information has been added to the response field.</i>
Tour of October Mountain.	Did the team find the activities to be in conformance with the Standard? <i>SCS Response: Information has been added to the response field to reference applicable CARs.</i>

3. Appropriateness of the Evaluation Team's findings in light of the information presented and the condition of the ownership's resource base.

This section of the review focuses largely on the findings and CARs identified in Section B of the assessment report. I found that for the significant majority of indicators the findings were appropriate and well supported. However, in some cases the findings did not address the indicator, some CARs were not justified by the findings, some findings seemed to suggest a CAR was needed when none was issued, and some CARs demanded actions that are not required by the indicator. Specific areas that should be addressed by the assessment team are identified in the following table.

C/I	Comment
1.1.b	<p>The findings only address one aspect of the regulatory side of the indicator. Conformance with BMPs should also be addressed.</p> <p><i>SCS Response: Changes made to cross reference BMP's and to show related non-conformances discussed elsewhere in the report.</i></p>
1.6.c	<p>REC 2009:7 does not seem pertinent to the indicator.</p> <p><i>SCS Response: Audit team feels Rec 2009.7 is relevant as proper documentation of silvicultural activities is important to ensuring current and future harvests meet the P&C.</i></p>
4.1.d	<p>The finding should clarify what kind of licensing requirements are in place.</p> <p><i>SCS Response: Changes have been made to indicate that licensing requirements are per Massachusetts regulations.</i></p>
4.1.j	<p>The requirements of CAR 2009.8 go well beyond the requirements of the indicator, which only requires that the FMO “provide and/or support training opportunities.” Training can be in-house training or attendance at forestry meetings (e.g., SAF). There is no evidence given that training opportunities are lacking. The indicator does not require a formal training program. If there are specific deficiencies in training that have led to a nonconformance in practice at a specific indicator (e.g., non-conformances for BMPs), then training requirements could be specified to address the non-conformance with a CAR specific to that indicator. Unless evidence to the contrary is provided that support for training is lacking or inadequate, this CAR should be downgraded to a REC.</p> <p><i>SCS Response: Both the client and the reviewer expressed concerns regarding the training CAR. However the view of the audit team is that the traditional types of training that have been provided are a major contributing factor to the the non-conformances observed on this audit. The training programs are insufficient for bringing new employees up to speed on agency operations and for keeping existing employees current with changing practices and new information. The training CAR consolidates a number of issues related to the management practices and the team felt they could be effectively addressed in a consolidated manner. Alternatively, there would be individual CARs associated with Indicators 4.1.j, 6.5.d, 7.1.c among others.</i></p>

4.4	<p>The criterion-level finding states in part: “However, cutting moratoriums are not balanced and do not consider the whole social spectrum. The decisions disproportionately weigh aesthetic and recreation issues without considering more diversified forest management goals and social benefit. The agencies need to prepare a social impact assessment that considers and quantifies the impacts of management moratoriums.” These statements clearly suggest that a CAR is required, but no additional evidence is provided in conjunction with the specific indicators, nor is any CAR issued under 4.4.</p> <p><i>SCS Response: Issue has been corrected by BoF lifting the de facto moratorium- thus that finding was deleted.</i></p>
5.1.e	<p>CAR 2009.13 does not address the weaknesses noted in the findings that precede the CAR. The noted weaknesses are lack of protection of advance regeneration in some instances and inconsistent stocking of desirable species. Protection of advance regeneration is addressed by CAR 2009.10. However, the CAR 2009.13 directs the agencies to assess the “ecological impacts of clearcutting healthy mature stands,” which has nothing to do with the indicator and findings, which do not specify that the regeneration issues are limited to clearcutting. To be applicable to this criterion the team would need to provide evidence that the ecological impacts of clearcutting include harm to productivity and quality and then limit the CAR to issues of productivity. See also additional comments on CAR 2009.13 below.</p> <p><i>SCS Response: See comments related to CAR 2009.13 below (associated with Indicator 6.1.e)</i></p>
5.3.b	<p>These findings contradict the lack of protection for advance regeneration noted in 5.1.e. and CAR 2009.10.</p> <p><i>SCS Response: The team disagrees and considers advance regeneration to be different from the residual stand.</i></p>
5.6.a	<p>The discussion of rotations does not suggest that “clearcutting healthy mature stands” (see 5.1.e) is productivity issue.</p> <p><i>SCS Response: The team finds that 5.6.a is specific to the basis and the documentation used for calculating harvest levels and the evaluation of the appropriateness of this calculation is a separate issue from those addressed in other indicators (e.g., 5.1.e).</i></p>
5.6.b	<p>The finding that “regenerating the forest with trees is successful in the vast majority of cases” suggests that the finding for lack of protection of advance regeneration described in 5.1.e may not warrant a CAR for that issue. Likewise, because “regeneration treatments are currently [not] covering more than a very small portion of the forest” clearcutting “healthy mature stands” would not appear to be a landscape-scale ecological issue as implied by CAR</p>

	<p>2009.13 unless mature stands were lacking on the forest or within the landscape. (From the context of the preceding quote, it appears that the word “not” was inadvertently admitted from the sentence at the point indicated. SCS staff and co-team leader Fernholz concurred.)</p> <p><i>SCS Response: The team disagrees. Elsewhere the reviewer has asked us to work indicator-by-indicator; now he errs by bringing other issues into this indicator. Note the wording above, especially the words “with trees”. The agencies are able to establish trees (e.g., regeneration is successful). However, regeneration is not always the species they should be striving for, does not always result from successful protection of advance regeneration, and does not always consider the landscape context. Indicator 5.6.b is specific to the harvest calculation with these other considerations addressed in other indicators (where there are CARs). Harvest level calculations are mostly volume-based, and thus do not require adjusting based on regeneration failures.</i></p>
6.1.c	<p>The findings for this indicator should address the adequacy of the assessment process used to identify the need for representative sample areas in 6.4</p> <p><i>SCS Response: Change made</i></p>
6.1.e	<p>There are no findings that address this indicator. CAR 2009.14 is applicable to 6.1.d (completion of a short-term and cumulative impact assessment), not 6.1.e.</p> <p><i>SCS Response: SCS believes the findings relative to 6.1.e do in fact address the Indicator. Additional language has been added to Indicator 6.1.d to clarify that the gaps with respect to environmental assessments are related to long term ecological functions of the forest (6.1.e).</i></p> <p>Specific to CAR 2009.14:</p> <ul style="list-style-type: none"> • The findings do not indicate that there has been less assessment of this type of activity than for other silvicultural practices, nor do the findings indicate what analyses have been provided and why the assessment is not adequate. • These plantations include non-native species (Norway spruce), or native species at the limit of its range and unlikely to occur in large to medium sized patches (red pine) and native species that are planted in a configuration unlikely to occur naturally on typical plantation sites (e.g., large stands of white pine on relatively fertile, mesic uplands). The indicators of Criterion 6.3.a place a strong emphasis on managing for native species and ecosystems, and the findings of 6.3 give high marks maintaining a diversity of native habitats. If removing these plantations were an ecological concern then these findings should be reflected in 6.3. However, it appears that the activity is restoring a more natural ecosystem composition and function. The exemption at the end of CAR does not address the issue that many conifer plantations have been located on sites that would naturally be dominated by deciduous species. • The CAR does not provide sufficient justification that the risk of these

	<p>removals requires an immediate halt to clearcutting in conifer plantations.</p> <ul style="list-style-type: none"> • The comment at 6.3.a.1 that there “is an apparent failure of BOF to consider that mature Norway spruce plantations may offer some value as mature coniferous forest habitat” does not support an immediate halt to such harvests, nor is it particularly relevant to 6.3.a which emphasizes native species and ecosystems. The auditor should show some evidence that mature conifer habitat is a risk to justify a CAR of this nature, particularly when it is clear that the habitat which will replace most clearcuts in the short term – early successional deciduous habitat – and associated wildlife species have been shown to be at risk. • The need for an independent peer review is not justified by the assessment team, and it is not required by the indicator. <p><i>SCS Response:</i></p> <p><i>The team feels Criterion 6.1.(not 6.3) is the best place to address this non-conformance- because the gap at this stage is an inadequate environmental impact assessment. Given that in several instances the audit team observed harvested Norway spruce plantations regenerating or returning to Norway Spruce (with no actions by the State to correct this), the argument of removal of an exotic (i.e., restoration of native hardwoods) was not a sufficient justification for converting mature conifer plantation stands. Creating early successional habitat was another stated rationale for removal of conifer plantations. However, the FSC Northeast Standard does not explicitly state that managers should be creating early successional habitat nor does it mention early successional being of importance. The States rationale for these treatments do not take into consideration the fact that such plantations offer valuable habitats, viz. dense mature coniferous habitat used during migration and as winter habitat for animals. In addition, such habitats require at least 50 years to create, whereas early successional pioneer hardwoods require only a year or two. The precautionary principle would thus suggest that clearcutting such stands would be a last, not first, resort (as mentioned again, below, Norway spruce is non-invasive). The evaluation team found no evidence that the positive aspects of maintaining these plantations on the landscape have been considered, and thus BoF and DWSP have not presented a balanced environmental impact assessment – that addresses the pros and cons of their maintenance – prior to implementing a program for their rapid removal. The combination of the lack of proper environmental assessment and the huge public outcry to conifer plantation removal- warrants a CAR that requires analysis to be completed before any of these harvests are continued. The team also feels that given the controversial nature of this issue an independent review is warranted.</i></p>
6.3.a.6	<p>CAR 2009.13.</p> <p>Specific to the finding of non-conformity:</p>

- Generally accepted silvicultural practices do not suggest that widespread mortality should be the only rationale for clearcutting. If stands are at rotation age then at the stand scale clearcutting is a justifiable silvicultural practice if it is applicable to the forest type and consistent with other elements of the FSCUS-NE Standard, regardless of whether or not the stand is healthy and mature. There is ample scientific evidence that early-successional species are declining in central and southern New England, and that public lands are the only likely place where such habitats can be maintained in a size and configuration that will support populations of early successional and brushland species within the region. See, for example, Litvaitis, J.A. 2003. Furthermore, the findings for Criterion 5.6.a suggest that the amount of clearcutting is very limited in extent.
- There is no finding to suggest that other silvicultural practices (e.g. a shelterwood regeneration and subsequent overstory removal harvest) have had an adequate assessment whereas clearcutting has not, i.e., that the two practices have been treated differently in the assessment.
- There is no justification as to why the findings and the CAR are limited to “healthy mature” stands. The ecological impacts of clearcutting are not limited to healthy mature stands.
- The Standard does require a not require that assessments specifically address whether or not “treatments are consistent with the natural pattern and scale of disturbance that was present in these forests under historic disturbance regimes.” Indicator 6.1.a gives current disturbance regimes as the only example of ecological processes that need to be assessed, but it does not require the FMO compare a specific practice to those regimes. I note that the team found the Commonwealth to be in conformance with 6.1.a and also with 6.3.a.1, the other place where natural disturbances are referenced in a planning context. The latter suggests that at a landscape scale clearcutting is not an issue and that the landscape-scale impacts have been considered, and this is further supported by 6.3.a.4, where high marks are given for age-class variation, including extended rotation stands, and 6.3.a.7 which finds that the larger (ca 40-acre) even-aged regeneration harvests are justified to minimize habitat fragmentation.
- The finding gives a legal definition of a clearcut, but silviculturally these may be one-cut shelterwood (i.e., as defined by Mark Ashton, Yale University, there are seedlings in place), seed tree, or coppice regeneration treatments. Legal definitions are irrelevant under Principle 6.

Relative to the CAR itself, comments by DWSP suggest that the impacts have been considered, but a review of all documentation is beyond the scope of this review. I am not aware of this level of impact analysis for clearcutting being required for other FSC-certified operations within the Northeast Region. A prudent consideration of landscape-scale impacts (e.g., is sufficient mature-forest habitat being maintained?), meso-scale considerations (e.g., consideration of adjacent ecological features) and site-level considerations when developing a

harvest plan (e.g. soils, biological legacies, regeneration) usually suffices. This CAR seems to be asking for more of a generic impact statement for the practice itself, which I do not find required by the standard. Because the CAR is limited to “healthy mature stands” this could be an issue more suited to Criterion 5.6, but those findings do not indicate an issue with harvest levels or stand-level timing of harvests impacting productivity at the forest scale. The public lands clearcutting issue in Massachusetts appears to be more of a social issue than an ecological issue, in which case a revised CAR tailored to Criterion 4 may be applicable. Given the high profile nature of this issue on public lands, it may be in fact that for social reasons a higher level of scrutiny would be beneficial, but given the findings and my experience with the FSC and clearcutting on other ownerships I do not see that the CAR as written is justified.

Citation:

Litvaitis, J.A. 2003. Are pre-Columbian conditions relevant baselines in managed forests of the northeastern United States? *Forest Ecology and Management* 185:113-126.

SCS Response: The team agrees that there is evidence that early successional species have declined in New England over the past 35-40 years based on Breeding bird Survey data. Partners-in-flight species of high concern in the two regions that encompass MA include more species that have associations with mature forests (Wood Thrush, Canada Warbler, Blackburnian Warbler, Black-throated Blue Warbler, Cerulean Warbler, Worm-eating Warbler, and Louisiana Waterthrush) than have associations with young forests (Chestnut-sided Warbler, American Woodcock, Golden-winged Warbler, Prairie Warbler, Blue-winged Warbler). Of the latter group, the chestnut-sided is a habitat generalist, the golden-winged is associated with higher elevation wet forests, the Prairie is associated with pine-oak barrens, the woodcock requires more permanent open areas, and the blue-wing is actually a threat to the golden-wing. With this information, the CAR is simply asking that the agency determine whether their clear-cutting practices will provide habitat for the early successional species that are currently declining and whether the practice will have a negative impact on species that require mature, intact forests.

The agencies have documented disturbance type, patch sizes of the disturbances, and return intervals. However, from the information provided and from what is included in the management plans, the agencies have not used the information to help them plan for the restoration of the long-term ecological functions of the forest. The audit findings are asking them to calculate the range of acres that would be expected on the landscape given the natural disturbance history of these forests. For example, how much of the landscape (range of acres were in early successional habitat)? How does that compare to what exists today on the landscape? If there is less now than historically, then they are justified in creating more.

	<p><i>It may also be useful to recognize there are several issues that came together to cause the team to develop this CAR. Again, the team took the approach of consolidating several areas of non-conformance into a single CAR. Additional Indicators that provide context for this CAR include Indicators 5.1.e, 6.1.e, 6.3.a.7, and 8.2.c.1. The ecological disadvantages of clearcutting relatively rare mature conifer stands to develop early successional habitat, when the same early successional habitat can be created from more common stand types, seems obvious to the team, as well as to many involved citizens.</i></p> <p><i>A “range of natural variability” analysis (like MN and many other federally managed areas as well as much of the public land in Canada) is one of the approaches that could be used to address this CAR.</i></p> <p><i>Citation:</i> <i>Hanowski, J. M. 2002. Habitats and landscapes used by breeding Golden-winged Warblers in western Great Lakes forests. Loon 74: 127-133.</i></p>
6.3.b.2, 6.3.c.1	<p>“Stand-level practice could be improved in some instances relative to retention and large woody debris.” As written this does not sound like a CAR is warranted, and at 6.3.c. which also addresses large downed woody material, no finding of non-conformance is given.</p> <p><i>SCS Response: Agreed- dropped the reference to the CAR in Indicator 6.3.b.2. Non-conformance belong in 6.3.c.1.</i></p>
6.5.d	<p>The finding does not address whether or not strategies are implemented to conform with BMPs.</p> <p><i>SCS Response: The strategy is to use qualified professionals (e.g., licensed foresters) to conduct harvesting. These individuals have knowledge and experience with BMPs. However there have been some issues with BMPs as described elsewhere in the report and included in stakeholder comments. The finding references these issues.</i></p>
7.1	<p>Non-conformance is listed, but no CAR is referenced. If the scope has been narrowed are they in fact in conformance?</p> <p><i>SCS Response: Correction made</i></p>
7.1.c	<p>The finding does not pertain to the Indicator. The indicator does not require that all foresters be able to use contemporary silvicultural terminology or describe its ecological basis. The finding should address whether or not the management plan conforms with this indicator.</p> <p><i>SCS Response: The team agrees. The available management plans do not provide much detail regarding “Description of silvicultural and/or other</i></p>

	<i>management system, based on the ecology of the forest in question and information gathered through resource inventories.” Instead forester knowledge is relied on to make the linkage between the very general descriptions of silvicultural systems and the details of application. A new recommendation (REC 2009.9) has been added for this indicator.</i>
8.2.c.1	<p>The second sentence regarding justifications for management actions is irrelevant to the indicator, which deals with monitoring of major habitat elements and species at risk.</p> <p><i>SCS Response: Change made/Sentence deleted</i></p>
9.3.a	<p>CAR 2009.19. If the “reserves” were designated on the basis of one or more of the “biodiversity HCVs” (i.e., HCV 1, 2, or 3) then this CAR is justified. However, the finding implies that the HCVF is based on watershed values (HCV 4), and not HCV 1, 2, or 3. In that case the CAR may not be justified, particularly if the reserves were identified to address the need for representative sample areas (Criterion 6.4) and not to conserve extant, regionally or nationally significant biodiversity values indicated by HCVs 1, 2, and 3. The findings should clearly justify this CAR relative to HCVs that have been identified within the designated HCVF.</p> <p><i>SCS Response: Clarified.</i></p>
9.3.b	<p>The finding does not address the indicator. Do HCVs cross boundaries, and if so what attempts at collaboration are being made?</p> <p><i>SCS Response: The agencies provided evidence of communications with adjacent landowners and interested parties. These interactions were confirmed via stakeholder contacts. These sentences have been added.</i></p>